[redacted]

[redacted]

TOT: 1009268
CCN: 10
XXXI+

File
1 v D
5-1

BR001
180619Z
6595 AEROSPACE TEST WG VAFB
O SPACE SYSTEMS DIV LOSA
BT
//~~S E C R E T~~//SECTION ONE OF TWO ~~VVFB-17-4-75-S~~.
SUBJECT FLASH REPORT ON LAUNCH OF THOR AGENA
THOR BOOSTER NO. 331 AND AGENA B ORBITAL STAGE NO.
~~1124 WAS LAUNCHED ON THE [illegible] FROM VAFB~~
COMPLEX 75-3 PAD 5 AT 1653:46.96 PST ON 17 APRIL
1962. THE PRIMARY LAUNCH OBJECTIVE, TO PLACE THE
AGENA SATELLITE WITH PAYLOAD IN A NEAR-POLAR
ORBIT, WAS ACCOMPLISHED, HOWEVER AN ABNORMAL
AGENA ENGINE SHUTDOWN TRANSIENT RESULTED IN AN
INJECTION VELOCITY AND AN ORBITAL PERIOD SLIGHTLY
GREATER THAN NOMINAL. READINGS FROM THE VTS

CLASSIFICATION CHANGED TO
[redacted]
By Authority of AFR 205-2
7 APR 1966

AGE TWO VAFB
RADAR PLOTTING BOARD GAVE AN INJECTION ALTITUDE
OF 128 STATUTE MILES, AN INJECTION PAD REFERENCED
VELOCITY OF APPROXIMATELY 25,338 FPS, AN INJECTION
FLIGHT PATH ANGLE OF ABOUT 0 DEG, AND AN INITIAL
DEPARTURE FLIGHT AZIMUTH OF APPROXIMATELY 172
DEG. THE INFLIGHT YAW LEFT MANEUVER DURING THE
LATTER PART OF THE THOR BOOST APPEARS TO HAVE
BEEN SUCCESSFULLY ACCOMPLISHED. TRACKING STAT-
IONS AT KODIAK, ANNETTE, VANDENBERG, AND HAWAII
HAVE CONFIRMED ORBITAL STATUS THROUGH RECEPTION
OF LINK 1 AND LINK 2 TELEMETRY AND RADAR BEACON
SIGNALS ON THE FIRST ORBITAL PASS.
A LIST OF SIGNIFICANT LAUNCH EVENTS FOLLOWS:

IFTOFF	ZERO 1653:46.96 PST
TEERING INITIATED	98.41 SEC
ECO (S1)	145.96 SEC
ECO	154.94 SEC
NABLE D1 AND D2 (S2)	158.93 SEC
1 ON	153.67 SEC
1 OFF	156.67 SEC

[redacted]

AGE THREE VAFB

D 2 ON	156.88 SEC
D 2 OFF	160.72 SEC
SEPARATION COMMAND (SS)	161.49 SEC
AGENA IGNITION (90 PERCENT PC)	193.93 SEC
AGENA SHUTDOWN COMMAND	431.5 SEC
AGENA BURNOUT (TEN PERCENT PC)	431.84 SEC
TS VERLORT RADAR FADE	451 SEC
TS ACQUISITION BEACON FADE	487 SEC
TS TELEMETRY FADE (LINK 1)	485 SEC

II. PRELIMINARY EVALUATION INDICATES THAT LAUNCH TEST OBJECTIVES WERE ACHIEVED AS FOLLOWS: (REF. DETAILED TEST OBJECTIVES, LMSC-446464, SECTION 2)

A. THOR BOOSTER - OBJECTIVE ACHIEVED

BOOSTER IGNITION AND LIFTOFF WERE SATISFACTORY THE THOR ROLL PROGRAM AND PITCH PROGRAM APPEAR TO HAVE BEEN PROPERLY EXECUTED. THE PROGRAMMED YAW-LEFT MANEUVER DURING THOR - MID-BOOST WAS SATISFACTORILY ACCOMPLISHED. AT MAIN ENGINE CUTOFF, VEHICLE POSITION WAS WITHIN A SPHERE OF 3NM RADIUS, FLIGHT PATH ANGLE WAS WITHIN PLUS OR MINUS A DEG, AND VELOCITY WAS WITHIN [illegible] FPS OF THE NOMINAL VALUE.

SECRET

TOT: 19 0945Z
CCN: 10

AEROSPACE TEST WG VAFB [redacted]
TO SPACE SYSTEMS DIV LOSA

S E C R E T//FINAL SECTION OF TWO VVZD-17-4-73-E.
ROUND GUIDANCE SYSTEM. VEHICLE ATTITUDE APPEARS
O HAVE BEEN CONTROLLED SATISFACTORILY DURING THE
OAST PHASE AND THE ORBITAL BOOST PHASE, AND CONTROL
AS EXPENDITURE WAS NORMAL DURING BOTH OF THOSE
ERIODS. THE ASCENT TIMER PROPERLY CONTROLLED THE
IME AND SEQUENCE OF ALL PROGRAMMED EVENTS THAT
ERE SCHEDULED TO OCCUR PRIOR TO LOSS OF TELEMET-
RED DATA AT VTS. HYDRAULIC SYSTEM PERFORMANCE
AS ADEQUATE.
HE INTEGRATOR COMMAND ENGINE SHUTDOWN AT

AGE TWO VAFB
51.5 SEC AFTER A VELOCITY GAIN OF 15,751 FPS WAS INDIC-
TED. HOWEVER THE SHUTDOWN TRANSIENT WAS SUCH
HAT AN ADDITIONAL 50 TO 70 FPS WAS IMPARTED TO THE
EHICLE AFTER THE SHUTDOWN COMMAND WAS PROVIDED.
5. AGENA SPACE COMMUNICATIONS SYSTEM
OPERATION OF THE ACQUISITION BEACON AND THE
ADAR BEACON WAS SATISFACTORY. VTS TRACKED THE
CQUISITION BEACON FROM LIFTOFF TO 457 SEC AND THE
ADAR BEACON FROM LIFTOFF TO 451 SEC. AT 493 SEC,
HE TIME OF LINK 1 TELEMETRY DATA FADE FOR VTS, ALL
ELEMETRY CHANNELS WERE OPERATING. AT THIS TIME
HE ORBITAL TIMER WAS SET AT 1485 SEC (STEP 15), IN THE
ESET-ON POSITION, IN THE INCREASE MODE, AND ALTER-
ATE RE-ENTRY DISARM STATE. AGENA LINK 2 TELEMETRY
AS NOT ON DURING ASCENT. NO GROUND COMMANDS WERE
ENT DURING THE ASCENT PHASE. TRACKING STATION
OMMUNICATIONS DURING THE LAUNCH OPERATION WERE ADEQUATE
6. AEROSPACE GROUND EQUIPMENT - OBJECTIVE ACHIEVED
BOOSTER AND ORBITAL STAGE CHECKOUT WAS
ATISFACTORILY ACCOMPLISHED DURING THE PRE-LAUNCH

PAGE THREE VAFB
COUNTDOWN BY THE AEROSPACE GROUND EQUIPMENT;
HOWEVER, THE FOLLOWING PROBLEMS WERE ENCOUNTERED:
1. [illegible]
    [illegible] AN OPEN CIRCUIT. REPAIRS WERE
    MADE AND NORMAL OPERATIONS RESUMED WITH
    NO DELAY.
2. THE AGENA ACID PROPELLANT TANKING REQUIRED
    20 MINUTES LONGER THAN NORMAL. THE LOW
    LOADING RATE IS POSSIBLY DUE TO A CLOGGED
    FILTER IN THE AGE. FURTHER EVALUATION IS IN
    PROGRESS.
3. DURING TERMINAL COUNTDOWN THE AGENA HELIUM
    PRESSURE DECAYED. EVALUATION SHOWED A LEAK
    AT THE HARDLINE FITTING ON THE HELIUM QUICK
    DISCONNECT. LEAKAGE WAS STOPPED BY TORQUING
    A "B" NUT ON THE FITTING.

D. COUNTDOWN
    THE COUNTDOWN STARTED AT [illegible] PST ON 17 APRIL
1962 AND PROGRESSED TO LIFTOFF WITH 1 HOLD TOTALING
4 MIN. THE HOLD WAS IMPOSED DURING TERMINAL COUNT-

AGE FOUR VAFB
OWN AT START OF PHASE III (T-11 MIN 26 SEC) BECAUSE OF
N AGENA AGE LEAK PROBLEM.
    DURING TASK 13 AN AREA OF THE AGENA SKIN WHICH HAD
OT BEEN PAINTED IN ACCORDANCE WITH A RECENT MODIF-
CATION WAS PAINTED. THE PAINTING OPERATION CAUSED
13 MINUTE DELAY.

E. PAD DAMAGE
    DAMAGE TO THE PAD EQUIPMENT AND FACILITIES
AS NORMAL, AND THE REHABILITATION WORK IS EXPECTED
O BE SIMILAR TO THAT AFTER PREVIOUS LAUNCHES FROM
IS PAD. S C P - 4.

/[illegible]Z APR VAFB

[redacted]